Appln. No. 09/905,716
Amendment Date: April 14, 2005
Reply to Office Action of November 17, 2004
Page 5

Amendments to the Claims:

This listing of claims will replace all prior versions, and
listings, of claims in the application.

Listing of Claims:

1. (Amended) A receiver for receiving and efficiently

separating a composite 3-G wireless communications signal into

its constituent base-band components, wherein said receiver

combines multiple processing tasks of a conventional receiver

into a single entity, said single entity performs the processing

required for multiple channels in a single device, comprising,

a resampling polyphase filter bank wherein tasks of

spectral translation, bandwidth reduction and of interpolation

to change sample rate by a rational ratio are embedded, and

a single polyphase filter operates in a resampling mode so

that the input and output sample rates are different.

2.   (Canceled).

Appln. No. 09/905,716
Amendment Date: April 14, 2005
Reply to Office Action of November 17, 2004
Page 6

3. (Amended) A receiver for receiving and efficiently
separating a composite 3-G wireless communications signal into
its constituent base-band components, wherein said receiver
combines multiple processing tasks of a conventional receiver
into a single entity, said single entity performs the processing
required for multiple channels in a single device, comprising,

a filter for changing the sample rate therewithin to induce
spectral aliasing of multiple spectral centers, and wherein

intentional aliasing is invoked as a replacement for the
input down conversion of each channel in a conventional receiver
structure.

4. (Amended). A receiver structure that embeds both
sample rate changes of the input data and sample rate changes of
the output data, wherein interaction of the two sample rate
changes is absorbed in [the] a polyphase filter as a scheduling
of input data samples being delivered to [-] elected filter
registers, comprising,

[the] polyphase partitioned filter weights [are]
simultaneously reassigned to different filter registers for

Appln. No. 09/905,716
Amendment Date: April 14, 2005
Reply to Office Action of November 17, 2004
Page 7

computation of register outputs, and <u>wherein</u> selected registers

may not receive input samples when directed to deliver output

samples.

5. (Amended) A receiver as claimed in claim 4 comprising,

<u>a</u> structure that collects samples computed from a polyphase

partitioned filter and performs phase rotations and summations

to separate the multiple aliases, caused by resampling, and

residing in each polyphase path to extract the separate signals

by destructive cancellation of the alias terms.

6-8.   (Canceled)